Amendments to the Claims

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1.   (Currently Amended) A method of guiding the fate of differentiation of a <u>neural stem</u> cell <u>or neural progenitor cell</u> into a specific cell type <u>neuron</u>, comprising

    a)   providing a sample comprising the <u>neural stem cell or neural progenitor</u> cell;

    b)   contacting the sample with a Groucho-interacting protein (GIP) in an amount and for a time sufficient to result in the formation of a complex between the GIP and a Groucho corepressor protein;

wherein the GIP and Groucho-corepressor protein complex represses DNA transcription and suppresses alternative pathways of differentiation, thereby guiding <u>guide</u> the fate of differentiation of the cell into a specific cell type <u>neuron</u>.

2.   (Original)   The method of claim 1 wherein the method further comprises the step of contacting the cell with an exogenous Groucho corepressor protein.

3.   (Original)   The method of claim 1 wherein the Groucho corepressor protein is endogenous to the cell.

4.   (Original)   The method of claim 1, wherein the Groucho corepressor protein is selected from the group consisting of Grg1, Grg2, Grg3, and Grg4 and their human homologs.

5.   (Original)   The method of claim 1, wherein the GIP comprises a TN-like domain.

6.   (Original)   The method of claim 1, wherein the GIP is a homeodomain polypeptide.

7.   (Original)   The method of claim 6 wherein the homeodomain polypeptide is a class II homeodomain polypeptide.

8.   (Original)   The method of claim 7 wherein the class II homeodomain polypeptide is a member of the Nkx polypeptide family.

9.   (Original)   The method of claim 8, wherein the Nkx polypeptide is selected from the group consisting of Nkx2.2, Nkx2.9, Nkx6.1, Nkx6.2, and Nkx6.3 and their human homologs.

10.   (Currently Amended) The method of claim 9, wherein the ~~guided differentiation results in the cell being differentiated into a~~ neuron is a motor neuron cell.

11.   (Original)   The method of claim 6 wherein the homeodomain polypeptide is a class I homeodomain polypeptide.

12.   (Original)   The method of claim 11 wherein the class I homeodomain polypeptide is selected from the group consisting of members of the Pax, Dbx, and Irx polypeptide families.

13-16. (Cancel).

17.   (Currently Amended) The method of claim ~~16~~ 1, wherein the neuron is an interneuron, a motor neuron or a projection neuron.

18.   (Original)   The method of claim 17, wherein the projection neuron is selected from the group consisting of a dopaminergic neuron, a cortical neuron, a gaba-ergic neuron and a glutaminergic neuron.

19.   (Canceled).

20.   (Original)   The method of claim 1, wherein the GIP is selected from the group consisting of Nkx6.1, Nkx6.2, Nkx6.3, and Nkx2.2 and the cell type into which the cell differentiates is a beta cell producing insulin.

21.   (Original)   The method of claim 1, wherein the contacting of the sample with a GIP occurs either *in vitro*, *ex vivo*, or *in vivo*.

22.   (Original)   The method of claim 21, wherein the contacting of the sample with a GIP occurs either *ex vivo*.

23.   (Original)   The method of claim 1, wherein the GIP is a polypeptide comprising an amino acid sequence selected from the group consisting of SEQ ID NO:7 and 13.

24.   (Previously Presented)   The method of claim 1, wherein the GIP is a polypeptide comprising the amino acid sequence X_{AA1}-X_{AA2}-X_{AA3}-X_{AA4}-X_{AA5}-X_{AA6}-X_{AA7}-X_{AA8}-X_{AA9}-X_{AA10}-X_{AA11} (SEQ ID NO:14), wherein X_{AA1} is Thr, Leu, or Ser; X_{AA2} is Gly or Pro; X_{AA3} is Phe or His; X_{AA4} is Ser, Thr, Gly, or His; X_{AA5} is Val or Ile; X_{AA6} is Lys, Arg, Asn, or Ser; X_{AA7} is Asp or Ser; X_{AA8} is Isl or Leu; X_{AA9} is Leu; X_{AA10} is Asp, Asn, Ser, or Gly; and X_{AA11} is Leu or Arg.

25-71   (Canceled).

NYC 339582v2